IBM Data Science Course 9 Week 4 Assignment

# Part 1

I spent a year in Amsterdam while completing my master’s program. It was a great experience, so much so that I am searching for jobs in the Netherlands now. Currently the best role I am looking at is in Rotterdam.

Amsterdam was amazing, and I am sure Rotterdam is good too, but I wonder how similar the two cities really are?

According to Geonames.org (Geonames, 2020) Rotterdam is the second largest city in the Netherlands, second only to Amsterdam. Yet, Rotterdam is known as a port city, having the largest port in Europe (Holland.com, 2020) while Amsterdam is widely known as a famous tourist destination.

Therefore, these two cities have fundamentally different backgrounds, despite being large cities in the Netherlands.

I would like to know how similar the different neighborhoods in these cities are, to determine how similar these two cities really are. More importantly for me, a study of the different neighborhoods will assist me in deciding where I would like to stay in Rotterdam, and what places I would like to visit, or not.

This type of research would likely by most helpful for other people in my position, where they could take the process I use and apply it to their own specific cities. For example, they might be living in one city in the world and may be moving to another, somewhere across the globe. Cross country and cross city work opportunities are growing as the world continues to become more globalized.

Additionally, tourism related businesses in Rotterdam may be interested in the results of this specific project to better understand the similarities between the famous Amsterdam and their own city. These insights could help them better market their services and the aspects of Rotterdam to international tourists that tend to only visit Amsterdam.

Similarly, the city of Rotterdam itself may also use the results of this study, should they wish to promote tourism in their city.

# Part 2

The data I would need to complete this project are as follows:

Data on all the venues in each of the neighborhoods will be needed for both Rotterdam and Amsterdam. More specifically, I would need the geographic coordinates of those venues, what category those venues fall under, and what neighborhoods those venues are in. This data is needed for clustering neighborhoods, to determine which ones are similar within the two cities, and between them.

The data can be found on Foursquare.com and we have had training to extract data from Foursquare.com via the Foursquare API and Python.

In addition, the geographic coordinates for every neighborhood in both cities will be needed. These coordinates will be used for plotting the neighborhoods on a map. Coordinate data based on textual location information can be obtained for free at [www.coordinatesfinder.com](http://www.coordinatesfinder.com). After a short test, the website provided coordinates for most neighborhoods in Rotterdam. The list of neighborhoods tested is the list of Rotterdam neighborhoods according to Wikipedia (Wikipedia, 2020). I assume the process for Amsterdam will be similar. I also assume the remaining neighborhoods can be found manually online through another similar process.